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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) In an electronic device interfaced with a display surface, a method, comprising the steps of:

provlding two electronic diagrams, said electronic diagrams having blocks representing components of a system;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user; and

programmatically merging said determined differences by copying said determined differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

2. (Original) The method of claim 1 wherein said programmatically merging differences comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

3. (Original) The method of claim 2, comprising the further step of:

cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced.

4. (Original) The method of claim 3 wherein only said child data elements are replaced.

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5. (Previously Presented) In an electronic device interfaced with a display surface, a method, comprising the steps of:

    providing two electronic diagrams, said electronic diagrams having blocks representing components of a system;

    determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

    determining differences between said electronic diagrams; and

    programmatically merging differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram;

    categorizing said differences between said two electronic diagrams as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user;

    copying all of said functional differences from said selected one of said two electronic diagrams;

    copying less than all of said graphical differences from said selected one of said two electronic diagrams; and

    inserting the copied functional differences and graphical differences into corresponding sections of said other electronic diagram, said copied functional and graphical differences being inserted in the corresponding section of said other electronic diagram.

6. (Original) The method of claim 5, comprising the further steps of:

    cascading hierarchically the replacement of data elements in said other electronic diagram wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements in said other electronic diagram being replaced when said parent data element is replaced.

7. (Original) The method of claim 5, comprising the further steps of:

    cascading hierarchically the replacement of data elements in said other electronic diagram, wherein said data elements being replaced are arranged in a tree structure, said tree

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structure having parent data elements with child data elements attached thereto, said child data elements of corresponding parent data elements in said two electronic diagrams being replaced without replacing the corresponding parent data element.

8. (Original) The method of claim 1, comprising the further steps of:

highlighting the differences in said electronic diagrams for a user on a display surface of a display device, said display surface showing both of said diagrams; and

updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram.

9. (Previously Presented) In an electronic device interfaced with a display surface, a method, comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams; and

programmatically merging differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram;

determining a distance on said display surface from an endpoint of a line to an updated connection point for a block in said electronic diagram, said updated connection point being the connection point of a line and a block following a merge operation;

comparing said distance to a pre-defined parameter, said pre-defined parameter being a distance value;

extending said displayed arrowed line to said updated connection point when said distance is less than said pre-defined parameter.

10. (Original) The method of claim 9, comprising the further step of:

replacing said line with a new line drawn to said updated connection point when said distance is at least as large as said pre-defined parameter.

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11. (Original) The method of claim 1, comprising the further steps of:

presenting said differences in said electronic diagrams on a display surface of a display device, said display surface split to show both of said electronic diagrams;

highlighting a difference item in said selected one of said two electronic diagrams;

highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

12. (Original) The method of claim 11 comprising the further step of:

replacing a data element in a highlighted difference item in said other electronic diagram, said data element being a child data element in said other electronic diagram, said data element being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto.

13. (Currently Amended) The method of claim 1, wherein said two electronic diagrams are ~~at least~~ one of block diagrams, state diagrams, signal diagrams, flow chart diagrams, sequence diagrams, UML diagrams, dataflow diagrams, circuit diagrams, ladder logic diagrams and Kinematic element diagrams.

14. (Original) The method of claim 1, wherein said electronic diagrams depict multiple domains

15. (Currently Amended) In an electronic device, a method, comprising the steps of:

providing two state diagrams of a system, said state diagrams having blocks joined with lines, each of said blocks representing states in a system, said lines representing transitions between said states, said transitions taking place upon the occurrence of a specified event;

determining corresponding features of said state diagrams that are present in both of said state diagrams;

determining differences between said state diagrams, said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences

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affecting the appearance of said electronic diagram displayed to a user, and wherein said differences are being recorded as a list of data elements; and

merging said differences from a selected one of said state diagrams into the other of said state diagrams, said merging copying said differences from the selected one of said state diagrams and inserting said differences in said other state diagram.

16. (Original) The method of claim 15 wherein said merging differences comprises the further steps of:

replacing data elements of said other state diagram with copied differences of data elements from said selected one of said state diagrams.

17. (Original) The method of claim 15, comprising the further steps of:

categorizing said corresponding features as functional features and graphical features, said functional features controlling the performance of the system represented by said state diagram, said graphical features affecting the appearance of said state diagram displayed to a user;

determining differences in said functional features and said graphical features of said state diagrams;

copying all of said differences in functional features from said selected one of said state diagrams;

copying less than all of said differences in graphical features from said selected one of said state diagrams; and

inserting the copied functional feature differences and graphical feature differences into corresponding sections of said other state diagram, said copied differences replacing data elements in the corresponding section of said other state diagram.

18. (Currently Amended) In a network that includes an electronic device, said electronic device interfaced with a display surface, a method, comprising the steps of:

retrieving over said network two electronic diagrams, said electronic diagrams having blocks joined with lines and including at least one semantic connection, said semantic connection associating components within the same system in said electronic diagram without a

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direct connection in said diagram between the components, each of said blocks including connection points where said lines join said blocks;

displaying said electronic diagrams to a user on said display surface;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, said differences being recorded as a list of data elements; and

merging said differences from a selected one of said electronic diagrams into the other of said electronic diagrams, said merging copying said differences from the selected one of said electronic diagrams and inserting said differences in the other of said electronic diagrams.

19. (Original) The method of claim 18, comprising the further steps of:

categorizing said differences between said electronic diagrams as functional differences and graphical differences, said functional differences controlling the performance of the system represented by said electronic diagram, said graphical differences affecting the appearance of said block diagram displayed to a user;

copying all of said functional differences from selected one of said electronic diagrams;

copying less than all of said graphical differences from said other electronic diagram; and

inserting the copied functional differences and graphical differences into corresponding sections of said other electronic diagram, said copied graphical and functional differences replacing data elements in the corresponding section of said other electronic diagram.

20. (Currently Amended) In an electronic device interfaced with a display surface, a medium holding computer-executable instructions for a method, said method comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system, said blocks connected by lines;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user; and

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programmatically merging said determined differences ~~copied~~ by copying said determined differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

21. (Original) The medium of claim 20 wherein the step of merging differences in said method comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

22. (Original) The medium of claim 20 wherein said method comprises the further step of:

categorizing said differences between said two electronic diagrams as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user;

copying all of said functional differences from said selected one of said two electronic diagrams;

copying less than all of said graphical differences from said selected one of said two electronic diagrams; and

inserting the copied functional differences and graphical differences into corresponding sections of said other electronic diagram, said copied functional and graphical differences being inserted in the corresponding section of said other electronic diagram.

23. (Original) The medium of claim 20 wherein said method comprises the additional steps of:

determining differences in at least one additional electronic diagram; and

merging said differences from at least one additional electronic diagram into said electronic diagrams.

24. (Previously Presented) The medium of claim 20 wherein said method comprises the additional steps of:

determining differences in at least one additional electronic diagram; and

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merging said differences from at least one additional electronic diagram into a single electronic diagram, said single electronic diagram being stored in a configuration management system.

25. (Currently Amended) In an electronic device interfaced with a display surface, a method, comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system and including at least one semantic connection, said semantic connection associating components within the same system in said electronic diagram without a direct connection in said diagram;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams; and

programmatically merging differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

26. (Previously Presented) The method of claim 25 wherein said programmatically merging differences comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

27. (Previously Presented) The method of claim 26, comprising the further step of:

cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced.

28. (Previously Presented) The method of claim 27 wherein only said child data elements are replaced.

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29. (Previously Presented) The method of claim 25, comprising the further steps of:

highlighting the differences in said electronic diagrams for a user on a display surface of a display device, said display surface showing both of said diagrams; and

updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram.

30. (Previously Presented) The method of claim 25, comprising the further steps of:

presenting said differences in said electronic diagrams on a display surface of a display device, said display surface split to show both of said electronic diagrams;

highlighting a difference item in said selected one of said two electronic diagrams;

highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

31. (Previously Presented) The method of claim 30 comprising the further step of:

replacing a data element in a highlighted difference item in said other electronic diagram, said data element being a child data element in said other electronic diagram, said data element being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto.

32. (Currently Amended) The method of claim 25, wherein said two electronic diagrams are at least-one of block diagrams, state diagrams, signal diagrams, flow chart diagrams, sequence diagrams, UML diagrams, dataflow diagrams, circuit diagrams, ladder logic diagrams and Kinematic element diagrams.

33. (Previously Presented) The method of claim 25, wherein said electronic diagrams depict multiple domains.

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34. (Previously Presented) In an electronic device interfaced with a display surface, said electronic device including a medium holding executable steps for a method, said method comprising the steps of:

    providing two electronic diagrams, said electronic diagrams having blocks representing components of a system and including at least one semantic connection, said semantic connection associating components in said electronic diagram without a direct connection in said diagram;

    determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

    determining differences between said electronic diagrams, said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user; and

    programmatically merging said determined differences copied by copying said determined differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

35. (Previously Presented) The medium of claim 34 wherein said programmatically merging differences comprises the further step of:

    replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

36. (Previously Presented) The medium of claim 35 wherein said method comprises the further step of:

    cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced.

37. (Previously Presented) The medium of claim 36 wherein only said child data elements are replaced.

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38. (Previously Presented) The medium of claim 34 wherein said method comprises the further steps of:

    highlighting the differences in said electronic diagrams for a user on a display surface of a display device, said display surface showing both of said diagrams; and

    updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram.

39. (Previously Presented) The medium of claim 34 wherein said method comprises the further steps of:

    presenting said differences in said electronic diagrams on a display surface of a display device, said display surface split to show both of said electronic diagrams;

    highlighting a difference item in said selected one of said two electronic diagrams;

    highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

    replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

40. (Previously Presented) The medium of claim 39 wherein said method comprises the further step of:

    replacing a data element in a highlighted difference item in said other electronic diagram, said data element being a child data element in said other electronic diagram, said data element being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto.

41. (Currently Amended) The medium of claim 34 wherein said two electronic diagrams are ~~at least~~ one of block diagrams, state diagrams, signal diagrams, flow chart diagrams, sequence diagrams, UML diagrams, dataflow diagrams, circuit diagrams, ladder logic diagrams and Kinematic element diagrams.

42. (Previously Presented) The medium of claim 34 wherein said electronic diagrams depict multiple domains

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